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ACKNOWLEDGEMENT RECEIPT

Electronic Version 1.1

Stylesheet Version v1.1.1

Title of Invention	Desktop Personal Digital Cosmetics Make Up Printer

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First Named Applicant: Jason Liang

Attorney Docket Number:

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us-request	us-request.xsl	

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SPECIFICATION

[Electronic Version 1.2.8]

[Desktop Personal Digital Cosmetics Make Up Printer]

Background of Invention

[0001]   Make up , Cosmetics have to fellow fashion stream and also it is aspects of age and job oriented. It take long time to do the Make up, especially a good make up will take people hours or whole day to finish it. It is very hard to draw a high resolution and smooth gray level and eye vivid brow and cheek blush by your own hand only, for instance most eye bow drawn by hands are just like solid color line, lack of both details and nature look, eye brow suppose made up of tiny hairs but pensile just can not do that detail. Compare the photo of the eye bow and the make up eye bow, there is big difference between them . Even permanent make-up machine can not do those details as digital photo, also permanent make-up once it is done it can not be changed in other style, color and others. To achieve a photographic level eye brow that can see the detail and give people vivid nature look, this invention comprise utilize piezoelectric print head or thermal print head digital printing technology make a dedicated desktop digital personal high resolution facial make up Cosmetics printer piezoelectric .

Summary of Invention

[0002]   A PC based personal desktop Cosmetics digital printer comprising the modern digital graphic and inkjet printing technology, make the digital quality make-up close to photographic quality, all deals will be expressed. The cartridge print head track rail can be adjusted based on profile of human head and face. X – Y axis motion control and piezoelectric print head that with CMYK color ink to finish the facial make up which usually done by hands. All the styles are stored in PC and favor style can be saved , edited and used again.

Brief Description of Drawings

[0003]   Fig. 1 is the general looking Make up printer 3D.

[0004]   Fig. 2 is illustration of the top view to the printer and human head and x axis drive assembly.

[0005]   Fig. 3 is illustration of the Inkjet cartridge Carrier and the guiding wheel.

[0006]   Fig. 4 is the carrier assembly and guiding wheel.

Detailed Description

[0007]   This personal desktop digital Cosmetics printer operated with PC and photographic software. In order to let inkjet cartridge print head print on the right position within the shooting range of the print head, the printer has a profile adjustable track rail, which can be adjusted according to the profile of human face and head shape, such as the eye bow or cheek. The track made by steel plate or composite material with both tiff and flexible character. The style, size, color and gray scale level is controlled by computer photographic software. The current Micro piezoelectric print head nozzle can print 300, 600,1200, 1400dpi resolution that mean it can print a hair in photographic quality, people can have real eye bow printed on her forehead in 10 seconds and a favor style can be saved in PC and using again. This will save a lot of time and patience. The cheek blushing printing is also very easy, call out a blushing style and color and just print on face then smear it with brush. People will get a perfect make up within a minute. System can store all kinds of eye brow and cheek blush from the movie star or and popular style and own favor make up Cosmetics style and digital effect images in PC and try them on the face. The ink used for this printer can be pigmented or dye based ,can be water based , solvent based and oil based. Print head driven by X axis motor in horizontal and driven by Y Axis motor in vertical, map the ink drop dot to the location desired.

Claims

[c1]

Claims 1. Desktop Personal Digital Make Up Printer. Comprising, Data Input

Interface, X - Y servo and step motor drive assembly, piezoelectric print head

Drive circuit board, CMYK inkjet cartridges carrier.

[c2]

Claims 2. Flexible track rail can be adjust according to profile of each person face

And head. Two thumb screw can bend or stretch the flexible track rail. Rail

can be made by steel or composite material plate.

[c3]

A length auto adjustable telescopic leg is coupled with carrier and used to

pull or push the cartridge carrier that rides on the curved rail to do the left

right scanning and compensating the arc of the rail. This telescopic leg can

be a linear motor driven or spring driven system.

[c4]

Claim3.   Carrier of ink cartridge assembly

The train wheel can clamps the rail edge and fellow the track arc. Whole

assembly comprise X axis step motor or servo motor, ball screw worm and

nut assembly and telescopic leg and cartridge Carrier . The Y Axis drive

assembly control the vertical motion of the Carrier of ink cartridge

assembly the print head assembly. X – Y axis 2 dimension motion, open

loop or close loop control, can let print head shooting ink at any position

of the human face that computer programmed.

[c5]

Claim4.   Database of all kind of eye brow , face blush , logo, symbols, and texture

vector image, and some .

[c6]

Recommended style and color are stored. Customer can make its on eye

brow picture and print and save.   All eye brow, face blush image can be

edited , such as brightness, contrast , Color, special effect ion, skew, stretch

Scale, hue, saturation and color gamma.

[c7]

Claims5. The printer can print left of the face and then print the right side of the face

or print both side at same time.

Abstract of Disclosure

[0008]   This invention discloses a system for providing a desktop digital personal
make up Cosmetics system which can raise the speed of cosmetics many time faster
and much detail than traditional way. A desktop digital Inkjet eye brow and face make
up printer comprising with flexible adjustable track rail, Profile set up adjustable thumb
screws, inkjet cartridge carrier and ink cartridge which contain the oil base or water
based edible color ink, dye or pigmented ink, X - Y axis Ball screw servo drive,
telescopic leg and electronic motion control, position encoder, digital·image process
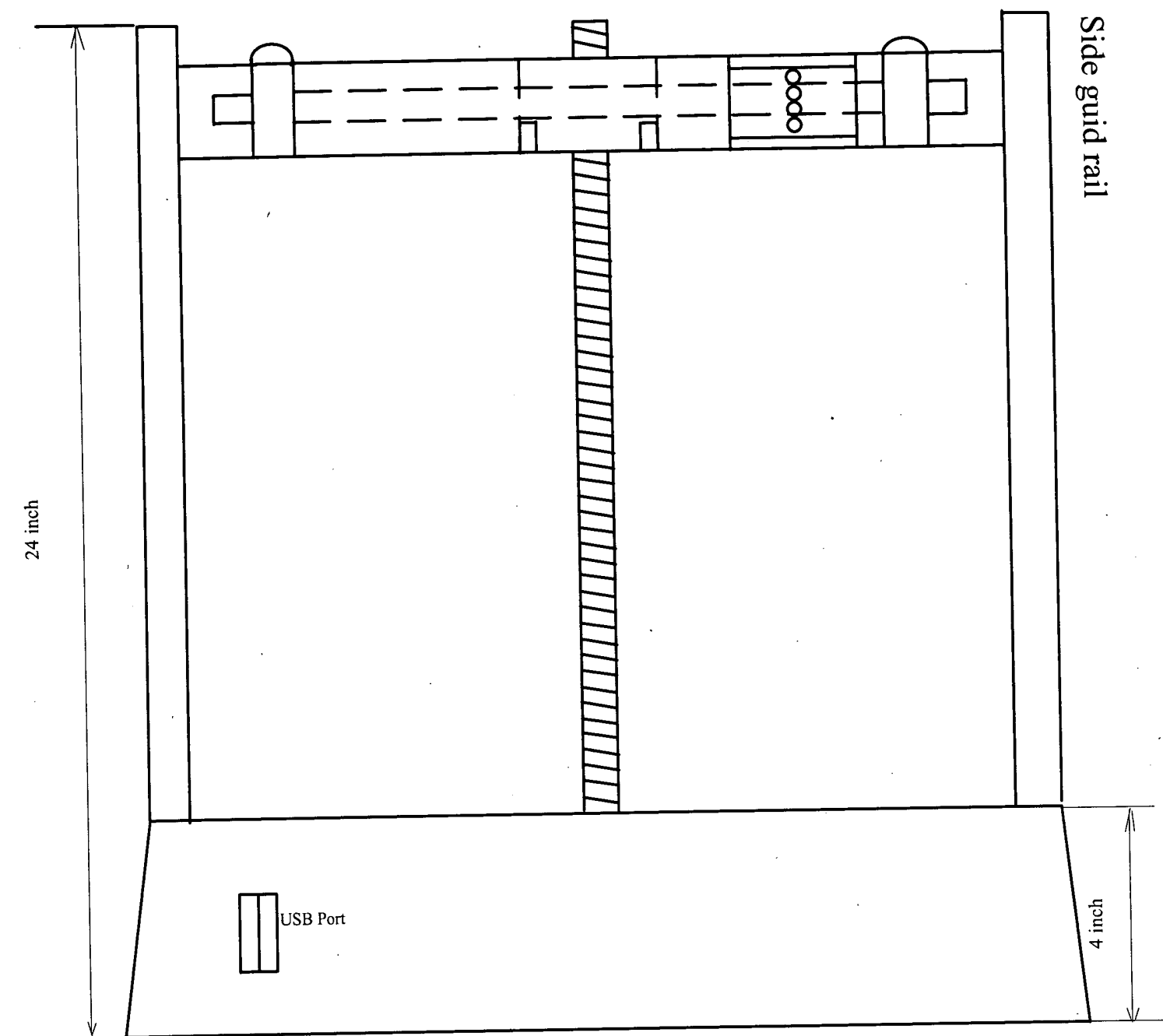and piezoelectric print head nozzle drive.

Side guid rail

24 inch

4 inch

USB Port

Fig.-2.
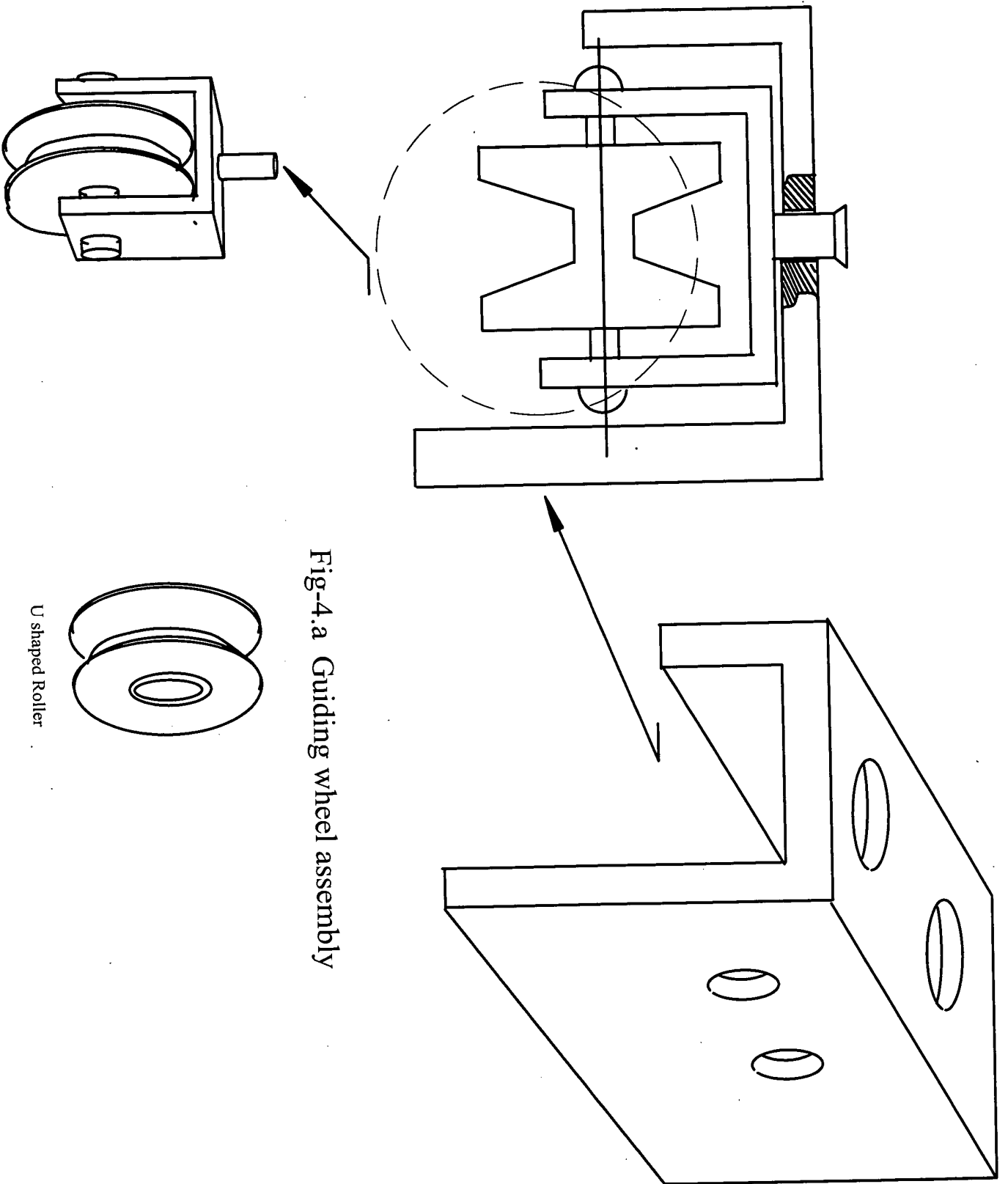Desktop personal Digital Cosmetics Make Up Printer

U shaped Roller

Fig-4.a Guiding wheel assembly
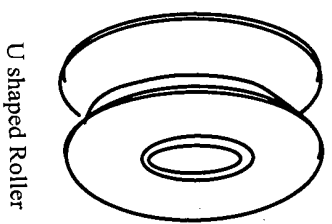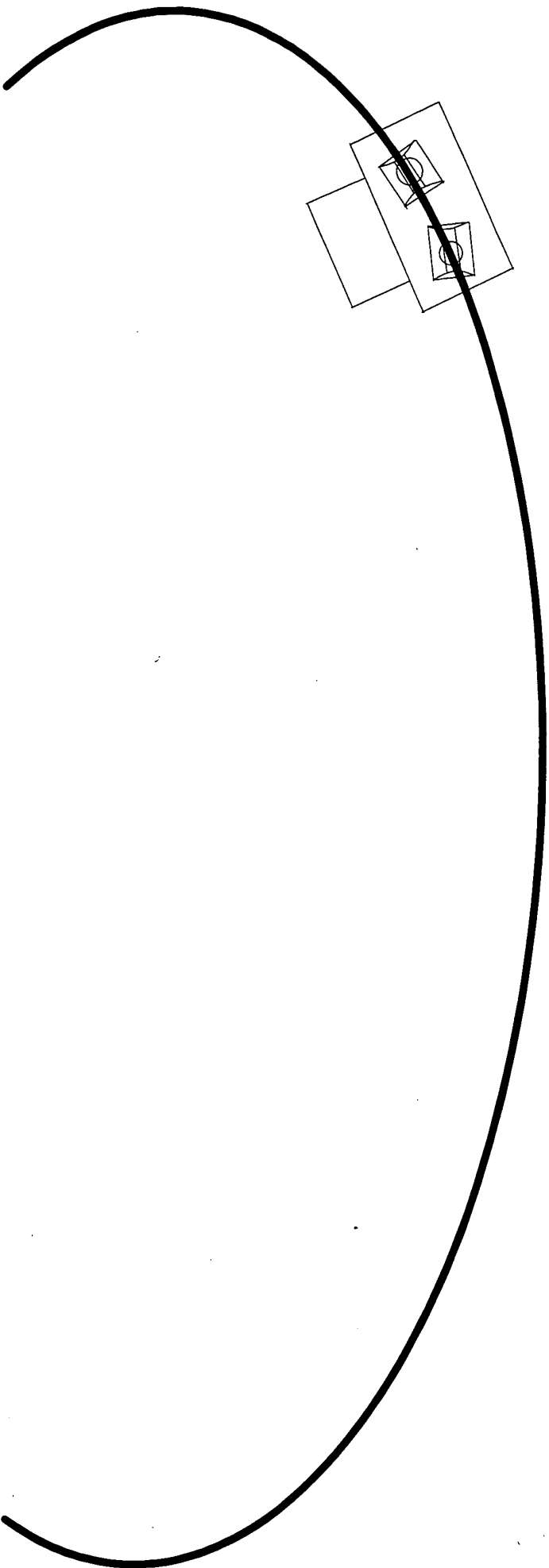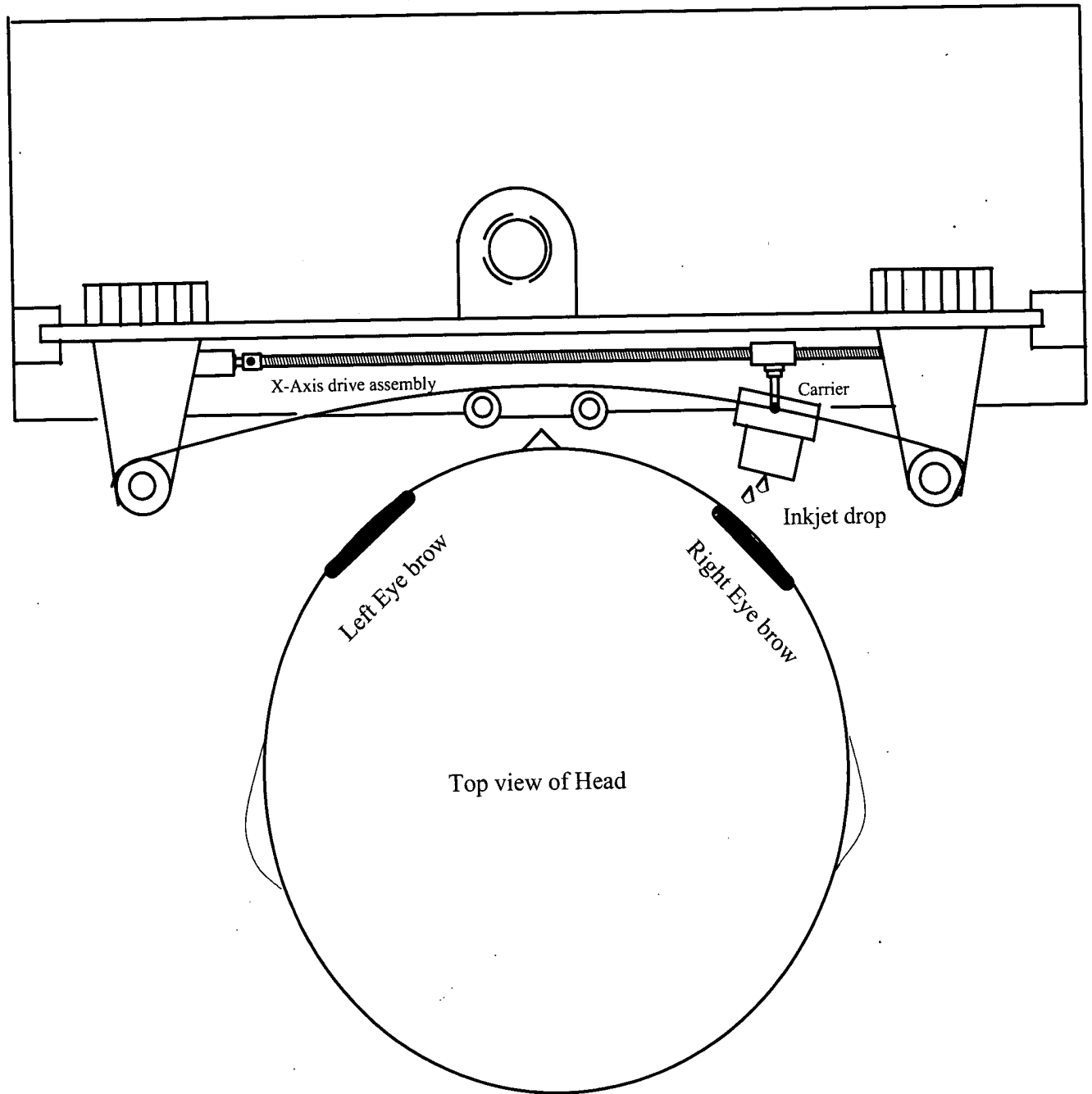
Fig. 2. a   2wo guiding wheels move over the track rail

X-Axis drive assembly

Carrier

Inkjet drop

Left Eye brow

Right Eye brow

Top view of Head

Fig. 2

Desktop personal Digital Cosmetics Make Up Printer

Fig. -1

USB Port

Y axis Ball Worm screw assembly

X-axis Ball Worm screw assembly

Inkjet carrier assy

Thumb screw

Thumb screw

USB Port

Thumb screw

Thumb screw

X-axis Ball Worm screw assembly

Y axis Ball Worm screw assembly

Ink Canisters

Inkjet print head carrier assy
Fig.1.a
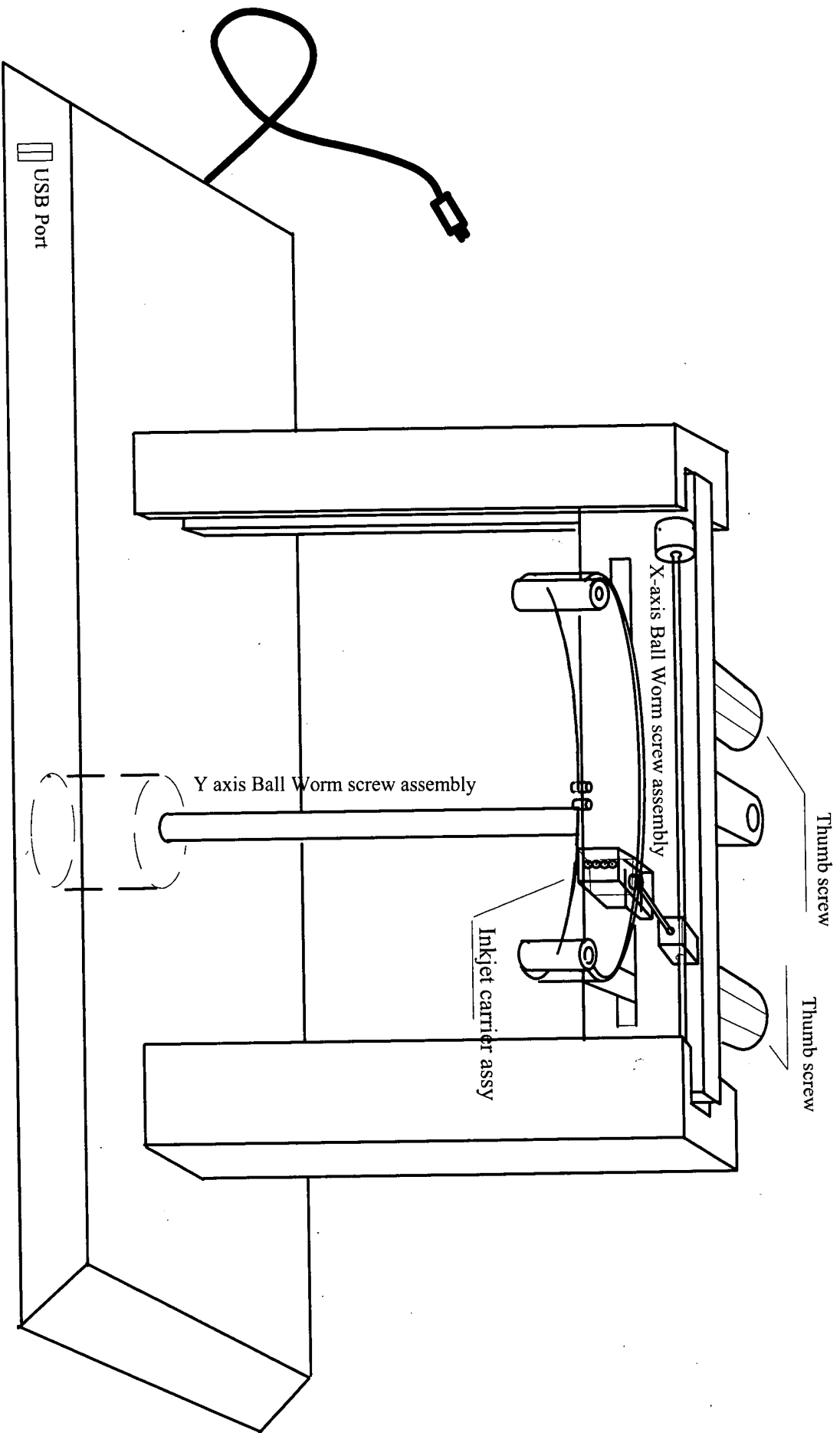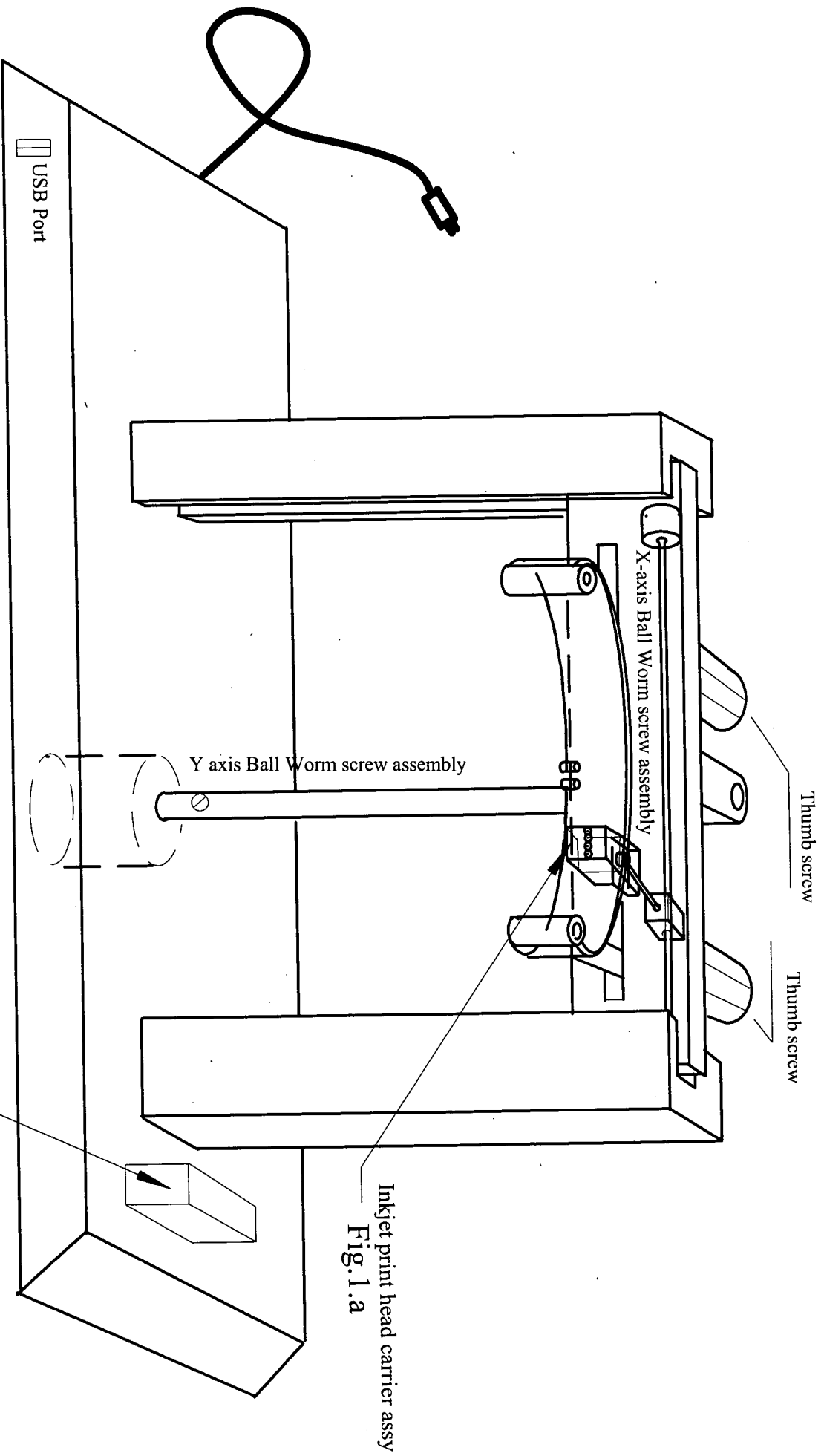
Fig. - 1

Desktop Personal Digital Cosmetics Make Up Printer
with adjustable profile track rail.

Track Profile Control Knob Left

Thumb screw

X-axis Ball screw assembly

Y axis Ball Worm screw assembly

Actuator (telescopic leg)

Flexible Track

Track Profile Control Knob Right
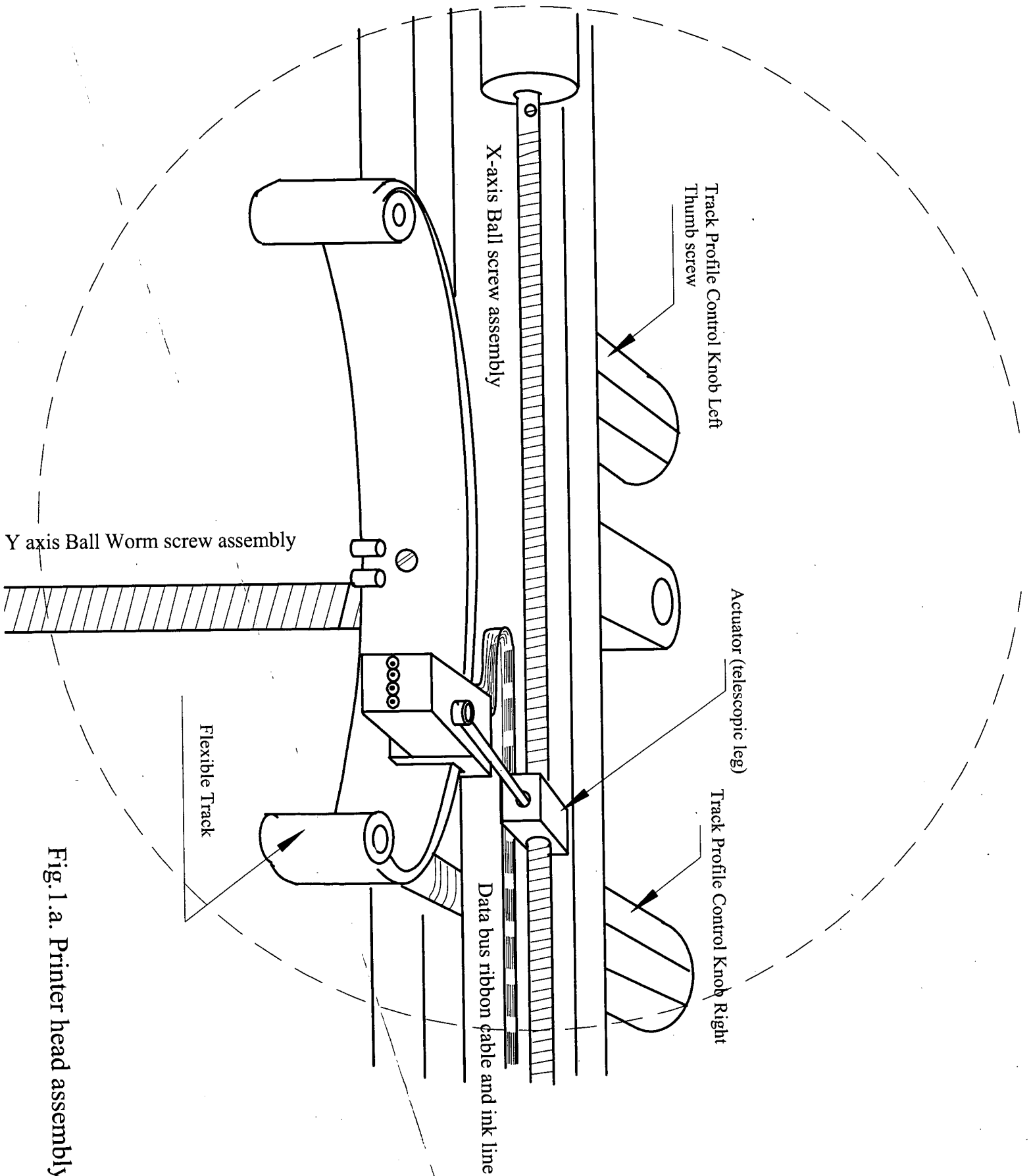
Data bus ribbon cable and ink line

Fig.1.a. Printer head assembly

Description

[Digital laser dot map thermal image decoy for Infrared countermeasure against FPA based missile and IRST w HSS]

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] US patent number :

6662700;6587486;6420721;6674520;6410897.

BACKGROUND OF INVENTION

[0002] This invention relates to an approach to protect aircraft and

other vehicle against threats that use high resolution (Hi Res)

FPA (focus plane array)detector based IR missile and

IRST(Infrared Search and Track)/HSS (helmet sight system).

Threats against military aircraft and vehicle , such as air-

launched or ground-launched heat seeking missiles are typically

guided by an infrared sensor, Infrared sensors, on the other

hand, are passive devices that do not reveal their presence or

operation. The great majority of aircraft losses to hostile attacks

over the past decades have been to infrared-guided missiles.